

GenCore version 4.5  
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OM protein - protein search, using sw model

Run on: October 19, 2001, 14:44:29 ; Search time 12.27 Seconds  
(without alignments)  
347.368 Million cell updates/sec

Title: US-09-487-792-2  
Perfect score: 1101  
Sequence: 1 MSTKPDWIKCLWLEILMGI.....VEIPRCLYFYKFTALFRK 207

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 197339 seqs, 20590346 residues

Total number of hits satisfying chosen parameters: 197339

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents\_AA.\*

- 1: /cgn2\_6/ptodata/2/1aa/5A\_COMB.pep.\*
- 2: /cgn2\_6/ptodata/2/1aa/5B\_COMB.pep.\*
- 3: /cgn2\_6/ptodata/2/1aa/6A\_COMB.pep.\*
- 4: /cgn2\_6/ptodata/2/1aa/6B\_COMB.pep.\*
- 5: /cgn2\_6/ptodata/2/1aa/PCTUS\_COMB.pep.\*
- 6: /cgn2\_6/ptodata/2/1aa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	246.5	22.4	187	1	US-08-026-758-22
2	246.5	22.4	187	4	US-09-206-903A-9
3	246.5	22.4	187	6	5514567-1
4	245.5	22.3	187	3	US-08-912-768-3
5	245.5	22.3	187	6	5326859-1
6	239.5	21.8	195	1	US-08-249-671A-9
7	238.5	21.7	195	4	US-09-206-903A-8
8	236	21.4	195	1	US-08-438-753B-12
9	236	21.4	195	1	US-08-443-883A-12
10	236	21.4	195	2	US-08-631-328-12
11	236	21.4	195	2	US-08-455-524B-12
12	236	21.4	195	2	US-08-455-021B-12
13	236	21.4	195	4	US-09-045-467-12
14	235.5	21.4	172	1	US-08-438-753B-2
15	235.5	21.4	172	1	US-08-443-883A-2
16	235.5	21.4	172	2	US-08-631-328-2
17	235.5	21.4	172	2	US-08-455-524B-2
18	235.5	21.4	172	2	US-08-455-021B-2
19	235.5	21.4	172	4	US-09-045-467-2
20	235.5	21.4	172	4	US-08-954-395A-18
21	232	21.1	162	3	US-09-205-264-3
22	231.5	21.0	195	1	US-08-438-753B-32
23	231.5	21.0	195	1	US-08-443-883A-32
24	231.5	21.0	195	2	US-08-631-328-32
25	231.5	21.0	195	2	US-08-455-524B-32
26	231.5	21.0	195	2	US-08-455-021B-32
27	231.5	21.0	195	4	US-09-045-467-32

28 229.5 20.8 199 6 5510472-9 Patent No. 5510472  
29 228.5 20.8 172 1 US-08-438-753B-4 Sequence 4, Appl  
30 228.5 20.8 172 1 US-08-438-753B-44 Sequence 44, Appl  
31 228.5 20.8 172 1 US-08-443-883A-4 Sequence 4, Appl  
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33 228.5 20.8 172 2 US-08-631-328-4 Sequence 4, Appl  
34 228.5 20.8 172 2 US-08-631-328-44 Sequence 44, Appl  
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43 225 20.4 172 2 US-08-631-328-34 Sequence 34, Appl  
44 225 20.4 172 2 US-08-455-524B-34 Sequence 34, Appl  
45 225 20.4 172 2 US-08-455-021B-34 Sequence 34, Appl

#### ALIGNMENTS

RESULT 1  
US-08-026-758-22  
; Sequence 22, Application US/08026758  
; Patent No. 5780021  
; GENERAL INFORMATION:  
; APPLICANT: SOBEL, DOUGLAS O.  
; TITLE OF INVENTION: A METHOD FOR TREATING AUTOIMMUNE  
; TITLE OF INVENTION: DISEASES USING ALPHA-INTERFERON AND/OR BETA-INTERFERON  
; NUMBER OF SEQUENCES: 26  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: OBION, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,  
; ADDRESSEE: P.C.  
; STREET: 1755 S. Jefferson Davis Highway, Suite 400  
; CITY: Arlington  
; STATE: Virginia  
; COUNTRY: U.S.A.  
; ZIP: 22202  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patentin Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/026,758  
; FILING DATE: 19930305  
; CLASSIFICATION: 424  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Obion, No. 5780021man F.  
; REGISTRATION NUMBER: 24,618  
; REFERENCE/DOCKET NUMBER: 1126-096-0  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (703) 413-3000  
; TELEFAX: (703) 413-2220  
; TELEX: 248855 OPAT UR  
; INFORMATION FOR SEQ ID NO: 22:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 187 amino acids  
; TYPE: amino acid  
; TOPOLOGY: unknown  
; MOLECULE TYPE: protein  
; FEATURE:  
; NAME/KEY: Protein  
; LOCATION: 22..187  
; OTHER INFORMATION: /note= "Hu-IFN-beta"  
; US-08-026-758-22

Query Match 22.4%; Score 246.5; DB 1; Length 187;  
Best Local Similarity 32.9%; Pred. No. 7.9e-19;  
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;





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Best Local Similarity 35.0%; Pred. No. 1.le-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps
QY 14 LE1LGMGIFIAG---TSLSDCNLLNVHLRVTWONLRHLSSMSNSFFVEICLENIAFELPQ 70
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Db 5 LSLMALVLVSYGPGSGLCDLSQNHV-LVGRKNLRLLDEMRLSPRFLQDRKDFALPQ 63
   | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
QY 71 EFLOYQTPMKRD1KKAIFYENSLQAFNIF-SQHTFKYKWKERHLKQIQIGLDQQAAYLNQCL 129
   | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db 64 EMVEGGQLQEAQAISVLHEMLQSQSNFLFHTHEHSSAAWDTTLLLEQLRTGLHQQLDNLDA 123
   | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
QY 130 EEDENENEDKMKENEMKPEARVPQLSSLELRFRFHRIDNFKKKYSDSCAMETVRVE 189
   | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db 124 GOVMGEED-----SALGRGTPTLALKRYFQGIHVYLBKGYSDCAWETVRLE 170
   | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
QY 190 IRR 192
   | |
Db 171 IMR 173

RESULT 9
US-08-443-883A-12
; Sequence 12, Application US/08443883A
; Patent No. 5738845
; GENERAL INFORMATION:
; APPLICANT: Bazer, Fuller W.
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; APPLICANT: Ott, Troy L.
; APPLICANT: Van Heeke, Gino
; APPLICANT: Imakawa, Kazuhito
; TITLE OF INVENTION: Interferon Tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/443,883A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/139,891
; FILING DATE: 19-OCT-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/847,741
; FILING DATE: 09-MAR-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/318,050
; FILING DATE: 02-MAR-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/969,890
; FILING DATE: 30-OCT-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Fabian, Gary R.
; REGISTRATION NUMBER: 33,875
; REFERENCE/DOCKET NUMBER: 5600-0001.30
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-324-0880
; TELEFAX: 415-324-0960
; INFORMATION FOR SEQ ID NO. 12:

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; SEQUENCE CHARACTERISTICS:
;     LENGTH: 195 amino acids
;     TYPE: amino acid
;     TOPOLOGY: linear
;     MOLECULE TYPE: protein
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; ORIGINAL SOURCE:
;     INDIVIDUAL ISOLATE: predicted amino acid coding sequence
;     INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFNtau1).
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Query Match	21.4%;	Score 236;	DB 1;	Length 195;
Best Local Similarity	35.0%;	Pred. No. 1.1e-17;		
Matches 64;	Conservative 28;	Mismatches 73;	Indels 18;	Gaps 4;

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; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFntaul).
US-08-631-328-12

Query Match      21.4%; Score 236; DB 2; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.1e-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps

Qy    14 LEILMGFIAG--TSLDCNLNVLHVRRTWONLRHLSSMSNSFPVCEURENIATLQP 70
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Db    5 LSLMALVLVSYPGGSGDLSQNHY-LVGRKNLLDEMRLSPFCLQDRKDFALP 63
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Qy   71 EFLQYTPMKRDIKKAFYEMSLQAFTF-SOHTFKYWKERHLKQIOIGLDQQAEYNLOCL 129
       ||| : | | | | | | | | | | | | | | | | | | | | | | | |
Db   64 EMVGGQLQEAQAISVUHEMLQGSFNLFTEHSAAWDTLLEQLRTGLHQOLDNIDLACL 123
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Qy   130 EEDENENEDMKENEMKPSEARVPOLSSLELRVTFHRIDNFLKEKKYSDCAWETVRVE 189
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Db   124 GOVMGEED-----SALGRGTPTALKRVFGIHHVYLKEKGYSDCAWEIVRL 170
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Qy   190 IRR 192
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Db   171 IMR 173
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RESULT 11
US-08-455-524B-12
; Sequence 12, Application US/08455524B
; Patent No. 5942223
; GENERAL INFORMATION:
; APPLICANT: Bazer, Fuller W.
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; APPLICANT: Ott, Troy L.
; APPLICANT: Van Heeke, Gino
; TITLE OF INVENTION: Interferon Tau Compositions and
; METHOD OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/455-524B
; FILING DATE: 31-MAY-1995
; CLASSIFICATION: 435
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: US 08/438,753
; FILING DATE: 10-MAY-1995
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: US 08/139,891
; FILING DATE: 19-OCT-1993
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: US 07/847,741
; FILING DATE: 09-MAR-1992
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: US 07/318,050
; FILING DATE: 02-MAR-1989
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: US 07/969,890
; FILING DATE: 30-OCT-1992

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;
; ATTORNEY/AGENT INFORMATION:
; NAME: Sholtz, Charles K.
; REGISTRATION NUMBER: 38,615
; REFERENCE/DOCKET NUMBER: 5600-0001.32
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-324-0880
; TELEFAX: 415-324-0960
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 195 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFNtau1).
US-08-455-524B-12

Query Match 21.4%; Score 236; DB 2; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.1e-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps 4;

QY 14 LEILMGIFIAG---TSLDCLNLLNVHLRRVTWQNLRLHLSMSNSFPVECLRENIAFELPQ 70
Db 5 LSLMLALVLSVYGGGSLGCDLSQNHV-LVGRKNLRLDDEMRRLSPRFCLQDRKDFALPQ 63

QY 71 EFLQYTPMKRDIKAFYEMSLQAFNIF-SQHTFKYKWKERHLKQIQIGLQDQAEYLNQCL 129
Db 64 EMVEGGQLQEAQAISVLHEMLQOSFNLFTHESSAAWDTTLLEQLRTGLHQQLNDLACL 123

QY 130 EEDENEDMKEMKENMKPSEARVPQLSSLELRVYFHRIDNLFKEKYSDCAWETVRVE 189
Db 124 GQVMGEED-----SALGRGTPLALKRYFGIHHVYLKEKYSDCAWETVRLE 170

QY 190 IRR 192
Db 171 IMR 173

RESULT 12
US-08-455-021B-12
; Sequence 12, Application US/08455021B
; GENERAL INFORMATION:
; APPLICANT: Bazer, Fuller W.
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; APPLICANT: Ott, Troy L.
; APPLICANT: Van Hecke, Gino
; APPLICANT: Imakawa, Kazuhito
; TITLE OF INVENTION: Interferon Tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/455,021B
; FILING DATE: 31-MAY-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/139,891
; FILING DATE: 19-OCT-1993
; PRIOR APPLICATION DATA:
```

```
;
; APPLICATION NUMBER: US 07/847,741
; FILING DATE: 09-MAR-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/318,050
; FILING DATE: 02-MAR-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/969,890
; FILING DATE: 30-OCT-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Sholtz, Charles K.
; REGISTRATION NUMBER: 38,615
; REFERENCE/DOCKET NUMBER: 5600-0001.31
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-324-0880
; TELEFAX: 415-324-0960
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 195 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFNtau1).
US-08-455-021B-12

Query Match 21.4%; Score 236; DB 2; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.1e-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps 4;

QY 14 LEILMGIFIAG---TSLDCLNLLNVHLRRVTWQNLRLHLSMSNSFPVECLRENIAFELPQ 70
Db 5 LSLMLALVLSVYGGGSLGCDLSQNHV-LVGRKNLRLDDEMRRLSPRFCLQDRKDFALPQ 63

QY 71 EFLQYTPMKRDIKAFYEMSLQAFNIF-SQHTFKYKWKERHLKQIQIGLQDQAEYLNQCL 129
Db 64 EMVEGGQLQEAQAISVLHEMLQOSFNLFTHESSAAWDTTLLEQLRTGLHQQLNDLACL 123

QY 130 EEDENEDMKEMKENMKPSEARVPQLSSLELRVYFHRIDNLFKEKYSDCAWETVRVE 189
Db 124 GQVMGEED-----SALGRGTPLALKRYFGIHHVYLKEKYSDCAWETVRLE 170

QY 190 IRR 192
Db 171 IMR 173

RESULT 13
US-09-045-467-12
; Sequence 12, Application US/09045467
; Patent No. 6174996
; GENERAL INFORMATION:
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; TITLE OF INVENTION: Interferon Tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/045,467
; FILING DATE: Filed herewith
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, COUNTRY: USA
, ZIP: 94306
, COMPUTER READABLE FORM:
, MEDIUM TYPE: Floppy disk
, COMPUTER: IBM PC compatible
, OPERATING SYSTEM: PC-DOS/MS-DOS
, SOFTWARE: PatentIn Release #1.0, Version #1.25
, CURRENT APPLICATION DATA:
, APPLICATION NUMBER: US/08/438,753B
, FILING DATE: 10-MAY-1995
, CLASSIFICATION: 435
, PRIOR APPLICATION DATA:
, APPLICATION NUMBER: US 08/139,891
, FILING DATE: 19-OCT-1993
, PRIOR APPLICATION DATA:
, APPLICATION NUMBER: US 07/847,741
, FILING DATE: 09-MAR-1992
, PRIOR APPLICATION DATA:
, APPLICATION NUMBER: US 07/318,050
, FILING DATE: 02-MAR-1989
, PRIOR APPLICATION DATA:
, APPLICATION NUMBER: US 07/969,890
, FILING DATE: 30-OCT-1992
, ATTORNEY/AGENT INFORMATION:
, NAME: Sholtz, Charles K.
, REGISTRATION NUMBER: 38,615
, REFERENCE/DOCKET NUMBER: 5600-0001.30
, TELECOMMUNICATION INFORMATION:
, TELEPHONE: 415-324-0880
, TELEFAX: 415-324-0960
, INFORMATION FOR SEQ ID NO: 2:
, SEQUENCE CHARACTERISTICS:
, LENGTH: 172 amino acids
, TYPE: amino acid
, TOPOLOGY: linear
, MOLECULE TYPE: protein
, ORIGINAL SOURCE:
, INDIVIDUAL ISOLATE: amino acid sequence of a m
, INDIVIDUAL ISOLATE: OviFntau protein
US-08-438-753B-2

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QY	14	LEILMGIFTA---TLSLDCNLNVHLRRVTWONLRHLSMSNSFPVCECLRENIAFELPQ	70
Db	5	LSLMALVLVSYPGGSGLCDLSQHVV-LVGRKNRLRLDDEMRRLSPRFCLOQRKDFALPQ	63
QY	71	EFLQYTQPKRDIKKAFYEMSLQAFNIF-SOHTFKYWKERHLKQIOIGLDQQAAYLNQCQL	129
Db	64	EMVEGQLOEAAQISVLHEMLQOSFNLFTEHSSAAAWDTTLLEQLRTGLHQOLDNDACL	123
QY	130	EEDENENDEMKEMKENMPSEARVPQLSSLRLRYFRHRIDNFLKBKKGSDCAWEIVRVYE	189
Db	124	GQVNGEED-----SALGTGTALKRYFGQIHVYLKEBKGSDCAWEIVRLE	170
QY	190	IRR	192
Db	171	IMR	173

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RESULT 15
US-08-443-883A-2
; Sequence 2, Application US/08443883A
; Patent No. 5738845
; GENERAL INFORMATION:
; APPLICANT: Bazer, Fuller W.
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; APPLICANT: Ott, Troy L.
; APPLICANT: Van Heeke, Gino
; APPLICANT: Imakawa, Kazuhito
; TITLE OF INVENTION: Interferon Tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
;

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	Query Match	21.4%; Score 235.5; DB 1; Length 172;
	Best Local Similarity	31.8%; Pred. No. le-17;
	Matches	57; Conservative 34; Mismatches 55; Indels 33; Gaps 4;
QY	21	FIAGTSLDCLNLLNVHLRRVTWONLRHLSMSNSFPVECLRENTIAPELPOEFLOYTOPMK 80 :::       :  :     :   ::       ::
Db	2	YLKRKMLMDAR-----ENLKLDNRNLSPHSCLQDKRDFGLPQEMVEGDQLQ 50 
QY	81	RDIKKAFYEMSLQAFNIF-SQHPTFKYWKERHLKIQTGLDQQAYEYNQC---LEEDENE 135             :   :     :   :   :   :   :
Db	51	DQAPPVLYEMQLGSFNLFYEYTHSSAAMDITLLBQLCTGLQLOQLDLDTCRGVMGEEDSE 110 
QY	136	NEDMKEMKENMPKPEARVPQLSLELURRYFTHRIDNFLKEKKYSDCAMEIVRVIRCL 194 :   : : : : :
Db	111	LGNMDPT-----VTVKYFOGIYDYLOEKGYSDCAWEIVRVEMMAL 152 





OM protein - protein search, using sw model

Run on: October 19, 2001, 14:44:24 ; Search time 20.68 Seconds  
(without alignments)  
606.826 Million cell updates/sec

Title: US-09-487-792-2  
Perfect score: 1101  
Sequence: 1 MSTKPDMIQKCLWLEILMGI.....VEIRRCLYFYKFTALPRK 207

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 412676 seqs, 60623988 residues

Total number of hits satisfying chosen parameters: 412676

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_0601.\*

1:	/SID88/gcgdata/geneseq/geneseq/AA1980.DAT.*
2:	/SID88/gcgdata/geneseq/geneseq/AA1981.DAT.*
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4:	/SID88/gcgdata/geneseq/geneseq/AA1983.DAT.*
5:	/SID88/gcgdata/geneseq/geneseq/AA1984.DAT.*
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9:	/SID88/gcgdata/geneseq/geneseq/AA1988.DAT.*
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19:	/SID88/gcgdata/geneseq/geneseq/AA1998.DAT.*
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21:	/SID88/gcgdata/geneseq/geneseq/AA2000.DAT.*
22:	/SID88/gcgdata/geneseq/geneseq/AA2001.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	1101	100.0	207	21	AAV68800
2	1101	100.0	207	22	AAB49774
3	375.5	34.1	238	22	AAB49775
4	375.5	34.1	245	22	AAB49778
5	293.5	26.7	199	21	AAB18676
6	248.5	22.6	217	2	AAP10043
7	248	22.5	195	22	AAB49783
8	246.5	22.4	187	2	AAP10016
9	246.5	22.4	187	3	AAP20026
10	246.5	22.4	187	15	AAK56987
11	246.5	22.4	187	19	AAW61154

12	246.5	22.4	187	20	AAV05380	Human HCMV inducib
13	246.5	22.4	187	22	AAB49776	Human interferon b
14	245.5	22.3	187	16	AAK82608	IFN-beta (Phe101).
15	245.5	22.3	195	13	AAK24943	Sequence of ovine
16	245	22.3	195	11	AAK04539	cDNA clone of sequ
17	243.5	22.1	166	6	AAP50194	Modified human int
18	243.5	22.1	187	3	AAP20049	Interferon-beta ge
19	242.5	22.0	166	6	AAP50193	Modified human int
20	242.5	22.0	195	11	AAK04540	Ovine trophoblast
21	241.5	21.9	172	22	AAB31467	An ovine interfero
22	240.5	21.8	195	13	AAK24941	Sequence of ovine
23	240.5	21.8	195	13	AAK24942	Sequence of ovine
24	240.5	21.8	195	13	AAK24945	Sequence of ovine
25	239.5	21.8	195	16	AAK66198	E.coli SHII leader
26	239	21.7	196	22	AAB49784	Ovi TP-1 amino aci
27	238.5	21.7	195	7	AAP60253	Interferon-omega-1
28	238.5	21.7	195	13	AAK24944	Sequence of ovine
29	238.5	21.7	195	20	AAV22635	Human interferon-o
30	238.5	21.7	195	21	AAB13433	Human interferon o
31	236.5	21.5	172	22	AAB31461	An ovine interfero
32	236.5	21.5	172	22	AAB31464	An ovine interfero
33	236.5	21.5	172	22	AAB31468	Human complete int
34	236	21.4	195	17	AAW09288	Human interferon t
35	236	21.4	195	18	AAW44106	Human trophoblast
36	235.5	21.4	172	11	AAK09294	Sheep interferon-t
37	235.5	21.4	172	15	AAK54768	Ovine tau interfe
38	235.5	21.4	172	17	AAK99397	Mature ovine inter
39	235.5	21.4	172	18	AAW44110	Mature ovine inte
40	235.5	21.4	172	18	AAK31698	Amino acid sequenc
41	235.5	21.4	172	22	AAK31457	An ovine interfero
42	235.5	21.4	172	22	AAB31462	An ovine interfero
43	235.5	21.4	172	22	AAB31465	An ovine interfero
44	235.5	21.4	172	22	AAB31466	An ovine interfero
45	234.5	21.3	172	22	AAB31459	An ovine interfero

## ALIGNMENTS

RESULT	1
AAV68800	
ID	AAV68800 standard; Protein; 207 AA.
XX	
AC	AAV68800;
XX	
DT	16-MAY-2000 (first entry)
XX	
DE	Amino acid sequence of a keratinocyte derived interferon (KDI).
XX	
KW	Human; keratinocyte derived interferon; KDI; interferon; IFN; IFN-omega;
KW	tumour suppressor; antiviral; natural killer cell activation;
KW	immune system enhancement; viral infection; AIDS; viral hepatitis;
KW	viral encephalitis; cancer; autoimmune disease; arthritis;
KW	multiple sclerosis; diabetes; allergy.
XX	
OS	Homo sapiens.
XX	
FH	Key
FT	Peptide
FT	1..27
FT	/note= "signal peptide; specifically claimed in claim 14"
FT	Protein
FT	28..207
FT	/note= "mature protein; specifically claimed in claim 14"
FT	Specifically claimed in claim 14"
FT	Region
FT	49..54
FT	/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"
FT	Region
FT	59..65
FT	/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"
FT	Region
FT	78..88
FT	/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"
FT	

FT	Region	101..113	claimed in claim 15"
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
FT	Region	120..123	
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
FT	Region	128..155	
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
FT	Region	160..168	
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
FT	Region	165..183	
FT		/note= "signature sequence for interferons"	
FT	Region	171..180	
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
FT	Region	186..193	
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
FT	Region	204..207	
FT		/note= "epitope-bearing portion of KDI; specifically claimed in claim 15"	
XX			
PN		WO200005371-A1.	
XX			
PD		03-FEB-2000.	
XX			
PF		21-JUL-1999; 99WO-US16424.	
XX			
PK		21-JUL-1998; 98US-0093643.	
XX			
PA		(HUMA-) HUMAN GENOME SCI INC.	
XX			
PI		Ruben SM, Moore PA, Lafleur DW;	
XX			
DR		WPI; 2000-182698/16.	
DR		N-PSDB; AA260595.	
XX			
PT		Novel human gene encoding an interferon family polypeptide useful as a probe and for producing the polypeptide, useful for treating viral infections -	
PT			
XX			
PS		Claim 14; Fig 1; 8lpp; English.	
XX			
CC		The present sequence represents a human keratinocyte derived interferon (KDI) polypeptide. The KDI protein shares sequence homology with many members of the interferon family, especially with the translation product of the human mRNA for interferon (IFN)-omega. KDI is expressed mainly in keratinocytes, dendritic cells and monocytes. Stimulation of keratinocytes with tumour necrosis factor (TNF)-alpha or PolyIC (stimulating viral infection) specifically and rapidly stimulates overexpression of the KDI transcript. KDI is expected to have tumour suppressor properties, antiviral activities, natural killer cell activation properties, and immune system enhancement properties. Pharmaceutical compounds comprising KDI are useful for treating viral infections, e.g. AIDS, viral hepatitis and viral encephalitis. KDI is also useful in treating cancer, autoimmune diseases, arthritis, multiple sclerosis, diabetes and allergies.	
XX			
SQ	Sequence	207 AA;	
	Query Match	100.0%; Score 1101; DB 21; Length 207;	
	Best Local Similarity	100.0%; Pred. No. 1.le-98;	
	Matches 207; Conservative	0; Mismatches 0; Indels 0; Gaps	
QY	1	MSTKPMIOCKLWLELMGIFAGTSLDCNLLNHLRRVTWONLRLHLSMSNSFPVECI 60	
Db	1	mstkpmiocklwlmgifagtlslidcnllnhlrrvtwgnlrlhlsmsnsfpvecl 60	
QY	61	RENIAFELPQEFLOYTPMKRDKIKKAFVMSLOAFNIFSQHTFKYKWERHLKQIQIGLDQ 120	

Db	61	reniafeipqeflqytpmkrdikkafyemslqafnifsghtfkywkerhlkqigldq	120
QY	121	QAEYLNOCLEEDENEDMKEMKPEARVPQLSSLELRYPHRIIDNFKKKYSD	180
Db	121	gaeylnqcleedenedmkemkpearvpqsslelrryhrldnflkxkysd	180
QY	181	CAWEIVRVEIRRCLYFYFYKFTALFRK	207
Db	181	caweivrrrclyfykftalfrk	207
RESULT	2		
AA	AA49774		
ID	AA49774	standard; Protein; 207 AA.	
XX	AA49774;		
XX	23-APR-2001	(first entry)	
XX	Keratinocyte derived Interferon (KDI) protein sequence.		
XX	Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;		
KW	immune system related disorder; cancer; multiple sclerosis; AIDS;		
KW	hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;		
KW	diabetes; allergy; chronic myelogenous leukaemia; chromosome 9.		
OS	Homo sapiens.		
XX	WO200107608-A1.		
XX	01-FEB-2001.		
XX	20-JAN-2000; 2000WO-US01239.		
XX	21-JUL-1999; 99US-0358587.		
PR	21-JUL-1999; 99WO-US16424.		
XX	(HUMA-) HUMAN GENOME SCI INC.		
XX	Ruben SM, Moore PA, LaFleur DW;		
XX	WPI; 2001-138557/14.		
DR	N-PSDB; AAF72333.		
XX	Isolated keratinocyte derived interferon protein and polynucleotide		
PT	used to prevent, treat or ameliorate an immune system-related disorder,		
PT	viral infection, viral exposure and cancer -		
XX	Claim 14; Fig 1; 303pp; English.		
XX	This invention relates to human polynucleotide sequence AAF72333 which		
CC	encodes keratinocyte derived interferon (KDI) protein AAB49774, which is		
CC	a member of the interferon family. AAF72338 represents the codon		
CC	optimised sequence of KDI. The human KDI gene is located on chromosome 9		
CC	The specification includes KDI related protein sequences		
CC	AA49775 - AAB49789. Also given in the specification are primer, probe		
CC	and polynucleotide sequences represented by AAF72334-AAF72370 (excluding		
CC	AA72338) which are used in the isolation and characterisation of the KDI		
CC	sequence of the invention. The KDI polypeptide is used to treat viral		
CC	infections and the protein and polynucleotide may be used to prevent,		
CC	treat or ameliorate a medical condition such as immune system-related		
CC	disorder, viral infection, viral exposure and cancer in a mammal.		
CC	Specific disorders which can be treated by KDI include multiple		
CC	sclerosis, lymphoma, acquired immune deficiency syndrome, viral		
CC	hepatitis, Cryptosporidium parvum infection, chronic myelogenous		
CC	leukaemia, arthritis, diabetes and allergies.		
XX	Sequence	207 AA;	
SQ			

Query Match

100.0%;

Score 1101;

DB 22;

Length 207;

Best Local Similarity

100.0%;

Pred. No. 1,1e-98;

Matches 207; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MSTRKPDIMQKLEILMGIFIAGTLSLDCNLNLNVHLRVTWQNLRLHSSMSNFPVECL 60  
D 1 mstkdpmiqkclwleilmgifiagtlslsdcnlnlvhlrvwtqnlrlhssmsnfpvecl 60  
QY 61 RENIAFELPQEFLOYTPQMKRDIKAFYEMSLQAFNIFSOHTPKYKWERHLKQIQIGLDQ 120  
D 61 reniafelpqefloytpqmkrdikafyemslqafnifsohtpkkywerhlkqiqigldq 120  
QY 121 QAEYLNQCLEEDENEDKEMKSEARVPOLSSLELRRYFHRIDNLFLEKKYSD 180  
D 121 qaeynqcleedenenedkenemksearvpqlsslelrryfridnlflekkysd 180  
QY 181 CAWEIVRVEIRRCLYFYFKFTALFRK 207  
D 181 cawevrveirrclyfyfkftalfirk 207

RESULT 3  
AAB49775  
ID AAB49775 standard; Protein; 238 AA.  
XX AC AAB49775;  
XX DT 23-APR-2001 (first entry)  
XX DE Human interferon omega amino acid sequence.  
XX KW Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;  
KW immune system related disorder; cancer; multiple sclerosis; AIDS;  
KW hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;  
XX KW diabetes; allergy; chronic myelogenous leukaemia.  
XX OS Homo sapiens.  
XX PN WO200107608-A1.  
XX PD 01-FEB-2001.  
XX PF 20-JAN-2000; 2000WO-US01239.  
XX PR 21-JUL-1999; 99US-0358587.  
XX PR 21-JUL-1999; 99WO-US16424.  
XX PA (HUMA-) HUMAN GENOME SCI INC.  
XX PI Ruben SM, Moore PA, LaFleur DW;  
XX DR WPI; 2001-138557/14.  
XX PT Isolated keratinocyte derived interferon protein and polynucleotide  
PT used to prevent, treat or ameliorate an immune system-related disorder,  
PT viral infection, viral exposure and cancer -  
XX PS Disclosure; Fig 4; 303pp; English.

XX CC This invention relates to human polynucleotide sequence AAF72333 which  
CC encodes keratinocyte derived interferon (KDI) protein AAB49774, which is  
CC a member of the interferon family. AAF72338 represents the codon  
CC optimised sequence of KDI. The human KDI gene is located on chromosome 9.  
CC The specification includes KDI related protein sequences  
CC AAB49775 - AAB49789. Also given in the specification are primer, probe  
CC and polynucleotide sequences represented by AAF72334-AAF72370 (excluding  
CC AAF72338) which are used in the isolation and characterisation of the KDI  
CC sequence of the invention. The KDI polypeptide is used to treat viral  
CC infections and the protein and polynucleotide may be used to prevent,  
CC treat or ameliorate a medical condition such as immune system-related  
CC disorder, viral infection, viral exposure and cancer in a mammal.  
CC Specific disorders which can be treated by KDI include multiple  
CC sclerosis, lymphoma, acquired immune deficiency syndrome, viral  
CC hepatitis, Cryptosporidium parvum infection, chronic myelogenous  
CC leukaemia, arthritis, diabetes and allergies.

XX SQ Sequence 238 AA;

Query Match 34.1%; Score 375.5; DB 22; Length 238;  
Best Local Similarity 47.2%; Pred. No. 1.5e-28;  
Matches 85; Conservative 23; Mismatches 57; Indels 15; Gaps 4;

QY 27 SLDCNLNLNVH--LRRVTWQNLRLHSSMSNFPVECLRENIAFELPQEFLOYTPQMKRDIK 84  
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QY 21 slgdcldpqnghllsrntlvllhqmrris--pfclckrrdrfrfgemvkgslqkqhvm 77  
D 21 slgdcldpqnghllsrntlvllhqmrris--pfclckrrdrfrfgemvkgslqkqhvm 77  
QY 85 KAFYEMSLQAFNIF-SOHTPKYKWERHLKQIQIGLDQAEYLNQCLEEDENEDKEMK 143  
D 85 kafyemslqafnif-sohtpkkywerhlkqiqigldqaeynqcleedenenedkemk 143  
QY 78 svlhemiqlqfslfhtersaawmtlldqihelhqqlhletcl-----lqvvg 128  
D 78 svlhemiqlqfslfhtersaawmtlldqihelhqqlhletcl-----lqvvg 128  
QY 144 ENEMKPSEARVPOLSSLELRRYFHRIDNLFLEKKYSDCAWEIVRVEIRRCLYFYFKFTAL 203  
D 144 enemkpsearvpqlsslelrryfridnlflekkysdcawevrveirrclyfyfkftal 203  
QY 129 egesagaissvvpqlsslelrryfridnlflekkysdcawevrveirrclyfyfkftal 188  
D 129 egesagaissvvpqlsslelrryfridnlflekkysdcawevrveirrclyfyfkftal 188

RESULT 4  
AAB49778  
ID AAB49778 standard; Protein; 245 AA.  
XX AC AAB49778;  
XX DT 23-APR-2001 (first entry)  
XX DE Human interferon omega amino acid sequence.  
XX KW Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;  
KW immune system related disorder; cancer; multiple sclerosis; AIDS;  
KW hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;  
XX KW diabetes; allergy; chronic myelogenous leukaemia.  
XX OS Homo sapiens.  
XX PN WO200107608-A1.  
XX PD 01-FEB-2001.  
XX PF 20-JAN-2000; 2000WO-US01239.  
XX PR 21-JUL-1999; 99US-0358587.  
XX PR 21-JUL-1999; 99WO-US16424.  
XX PA (HUMA-) HUMAN GENOME SCI INC.  
XX PI Ruben SM, Moore PA, LaFleur DW;  
XX DR WPI; 2001-138557/14.  
XX PT Isolated keratinocyte derived interferon protein and polynucleotide  
PT used to prevent, treat or ameliorate an immune system-related disorder,  
PT viral infection, viral exposure and cancer -  
XX PS Disclosure; Fig 4; 303pp; English.

XX CC This invention relates to human polynucleotide sequence AAF72333 which  
CC encodes keratinocyte derived interferon (KDI) protein AAB49774, which is  
CC a member of the interferon family. AAF72338 represents the codon  
CC optimised sequence of KDI. The human KDI gene is located on chromosome 9.  
CC The specification includes KDI related protein sequences  
CC AAB49775 - AAB49789. Also given in the specification are primer, probe  
CC and polynucleotide sequences represented by AAF72334-AAF72370 (excluding  
CC AAF72338) which are used in the isolation and characterisation of the KDI  
CC sequence of the invention. The KDI polypeptide is used to treat viral  
CC infections and the protein and polynucleotide may be used to prevent,  
CC treat or ameliorate a medical condition such as immune system-related  
CC disorder, viral infection, viral exposure and cancer in a mammal.  
CC Specific disorders which can be treated by KDI include multiple  
CC sclerosis, lymphoma, acquired immune deficiency syndrome, viral  
CC hepatitis, Cryptosporidium parvum infection, chronic myelogenous  
CC leukaemia, arthritis, diabetes and allergies.

CC hepatitis, Cryptosporidium parvum infection, chronic myelogenous  
CC leukaemia, arthritis, diabetes and allergies.  
XX

SQ Sequence 245 AA;

Query Match 34.1%; Score 375.5; DB 22; Length 245;  
Best Local Similarity 47.2%; Pred. No. 1.5e-28;  
Matches 85; Conservative 23; Mismatches 57; Indels 15; Gaps 4;

QY 27 SLDCNLLNVH--LRRTWQNLRLHSSMSNPPVECLRENIAFELPQEPLOYTQPMKRDIK 84  
DB 21 slgcdlpqnhgllsrntvllhgmrris---pfclckdrdrfrfpqemvkgsglqkahvm 77  
QY 85 KAFYEMSLQAFNIF--SHTFYKWERHLKQIQIGLDOQAQAEVYNOCLEDEENEDMKEMK 143  
DB 78 svlhemiqqifslfhtersaawmtldqhlthelhqqlhletcl-----iqvvg 128  
QY 144 ENEMKPEARVPQSLLELRYFRHIDNFKLKKYSDCAEIVRIRRCILYFYKFTAL 203  
DB 129 egesagaissvqplsslielrryfrhldnflkckysdcaweivrrrcilyfykftal 188

RESULT 5

AAB18676  
ID AAB18676 standard; Protein; 199 AA.  
AC AAB18676;

22-JAN-2001 (first entry)

A murine interferon-alpha polypeptide designated zcytol3.

Mouse; interferon-alpha; zcytol3; chromosome 4; framework marker D4Mit94;  
viral infection; tumour cell; gene therapy.

MUS SP.

Key Location/Qualifiers  
Peptide 1..21  
Region /note= "signal peptide"  
Region 22..45  
Region /note= "Helix A"  
Region 46..64  
Region /note= "AB loop"  
Region 65..89  
Region /note= "Helix B"  
Region 90..98  
Region /note= "BC loop"  
Region 99..124  
Region /note= "Helix C"  
Region 125..133  
Region /note= "CD loop"  
Region 134..155  
Region /note= "Helix D"  
Region 156..160  
Region /note= "DE loop"  
Region 161..188  
Region /note= "Helix E"

WO20005324-A1.

21-SEP-2000.

17-MAR-2000; 2000WO-US06993.

18-MAR-1999; 99US-0271839.

23-SEP-1999; 99US-0405545.

(ZYMO ) ZYMOGENETICS INC.

Presnell SR, Feldhaus AL, Gao Z;

DR

WPI; 2000-647073/62.  
N-PSDB; AAA75718.

Novel murine interferon-alpha, zcytol3, useful for treating autoimmune diseases, certain cancers and enhancement of immune response against infectious agents and also in diagnosis of the disorders

Claim 8; Page 3; 110pp; English.

The present sequence represents a murine interferon-alpha polypeptide, designated zcytol3. The zcytol3 gene is mapped to mouse chromosome 4 (framework marker D4Mit94, located at 4.6 centimorgans). The zcytol3 polypeptide is useful for inhibiting viral infection of cells and inhibiting proliferation of tumour cells. The nucleic acid molecules encoding the zcytol3 polypeptides are useful as probes for in vivo diagnosis and as primers. Anti-zcytol3 antibodies are used to screen biological samples in vitro for the presence of zcytol3 and for detecting zcytol3 in tissue sections prepared from a biopsy specimen. The nucleic acid molecules encoding the zcytol3 protein are also useful in gene therapy.

SQ Sequence 199 AA;

Query Match 26.7%; Score 293.5; DB 21; Length 199;  
Best Local Similarity 35.5%; Pred. No. 9.6e-21;  
Matches 71; Conservative 31; Mismatches 83; Indels 15; Gaps 3;

QY 7 MIQKCLWLEILMGIFAGTSLDCLNLLNVHLRRVTWQNLRLHSSMSNPPVECLRENIAF 66

DB 1 mtpkflwlvavlyppiqslnc---vylodslenvkllgstmtgfpclckldtfd 56

QY 67 ELPQEFLOYTQPMKRDIKKAFYEMSLQAFNIFS-QHTFYKWERHLKQIQIGLDOQAQAEYL 125

DB 57 kfpkeilpyiqhmkreinavsyrrisslaltfnlkgspvpvteeheerirsglfkqvraq 116

QY 126 NOCLEEENEDMKEMKPEARVPQSLLELRYFRHIDNFKLKKYSDCAWEI 185

DB 117 gecfndeekeenhphsedf-----ltvylelgykfrfrikklkinkysfcawki 166

QY 186 VRVEIRRCILYFYKFTALFR 205

DB 167 vtveirrcilfiskrklk 186

RESULT 6

AAP10043

ID AAP10043 standard; Protein; 217 AA.

AC AAP10043;

14-AUG-1992 (first entry)

Sequence of human fibroblast interferon which is derived from a combination of the data from at least two of the plasmids pHEIF1-13.

Viral infection; therapy; cancer; tumour.

Homo sapiens.

Key Location/Qualifiers

Peptide 21..1

/label= signal

/note= "the mature peptide and the combined signal and mature peptide are claimed"

EP41313-A.

09-DEC-1981.

01-APR-1981; 81EP-0301414.

06-JUN-1980; 80GB-0018701.

```
PR 03-APR-1980; 80GB-0011306.
XX (BIOG-) BIOGEN NV.
XX Fiers WC;
XX WPI; 1981-93390D/51.
DR N-PSDB; AAN10038.
XX DNA sequences, recombinant DNA molecules transformed hosts etc.
XX for prodn. of antiviral and anticancer polypeptide(s) (NO
XX 26.10.81)
XX Claim 19; Fig 4; 118pp; English.
XX
XX The inventors claim a DNA sequence consisting of the DNA inserts of
CC G-PBR322(Pst)/HFI1, /HFI3, /HFI6 or /HFI7 and DNA sequences
CC which hybridise any of these 4 inserts. A polypeptide or its
CC fragments and derivs. showing an immunological or biological
CC activity of human fibroblast interferon produced by the transformed
CC host is also claimed. The polypeptide is useful for treating viral
CC infections, cancers or tumours in humans, or for treating bovine
CC viral infections.
XX
XX Sequence 217 AA;
SQ
Query Match 22.6%; Score 248.5; DB 2; Length 217;
Best Local Similarity 31.1%; Pred. No. 2.4e-16;
Matches 70; Conservative 32; Mismatches 88; Indels 35; Gaps 6;
QY 7 MIQKCLWLEILMGIFITAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSPVEC 59
Db 1 mnkcllqiallicsttalsmsynllgfrssnfcqkllw-----Ingrleyc 52
QY 60 LRENTAFELPQEFLOYTQPMKDIRKAFYEMSLQAFNIFSQHTFKY-WKERHLKQIQIGL 118
Db 53 lkdrrnfdipeeikqlqgfkedaaltiyemlqnfaiqrdsstsgwnetivenllanv 112
QY 119 DQOAYLNOCLEEDENENED-----MKEMKENMKPSE-ARVPQLSSL 160
Db 113 yqinhlktvlee-klekedftivenllanvyhqinhlktvleeklekedftrgkmsl 171
QY 161 ELRRYFHRIDNFKKKYSDCAWEIVRVEIRCLYFYFKFTALFR 205
Db 172 hikygyrghllylkakeyshcawtivrveillrnfnfynrltgyr 216
RESULT 7
AAB49783
ID AAB49783 standard; Protein; 195 AA.
XX
XX AAB49783;
XX
XX 23-APR-2001 (first entry)
XX
XX Bovine TP-1 amino acid sequence.
XX
XX Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;
XX immune system related disorder; cancer; multiple sclerosis; AIDS;
XX hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;
XX diabetes; allergy; chronic myelogenous leukaemia.
XX
XX Bos sp..
XX
XX WO200107608-A1.
XX
XX 01-FEB-2001.
XX
XX 20-JAN-2000; 2000WO-US01239.
XX
XX 21-JUL-1999; 99US-0358587.
XX
XX 21-JUL-1999; 99WO-US16424.
XX
XX
XX (HUMA-) HUMAN GENOME SCI INC.
XX
XX Ruben SM, Moore PA, LaFleur DW;
XX
XX WPI; 2001-138557/14.
XX
XX Isolated keratinocyte derived interferon protein and polynucleotide
XX used to prevent, treat or ameliorate an immune system-related disorder,
XX viral infection, viral exposure and cancer -
XX
XX Disclosure; Fig 4; 303pp; English.
XX
XX This invention relates to human polynucleotide sequence AAF72333 which
XX encodes keratinocyte derived interferon (KDI) protein AAB49774, which is
XX a member of the interferon family. AAF72338 represents the codon
XX optimised sequence of KDI. The human KDI gene is located on chromosome 9.
XX the specification includes KDI related protein sequences
XX AAB49775 - AAB49789. Also given in the specification are primer, probe
XX and polynucleotide sequences represented by AAF72334-AAF72370 (excluding
XX AAF72338) which are used in the isolation and characterisation of the KDI
XX sequence of the invention. The KDI polypeptide is used to treat viral
XX infections and the protein and polynucleotide may be used to prevent,
XX treat or ameliorate a medical condition such as immune system-related
XX disorder, viral infection, viral exposure and cancer in a mammal.
XX Specific disorders which can be treated by KDI include multiple
XX sclerosis, lymphoma, acquired immune deficiency syndrome, viral
XX hepatitis, Cryptosporidium parvum infection, chronic myelogenous
XX leukaemia, arthritis, diabetes and allergies.
XX
XX Sequence 195 AA;
SQ
Query Match 22.5%; Score 248; DB 22; Length 195;
Best Local Similarity 35.1%; Pred. No. 2.3e-16;
Matches 65; Conservative 28; Mismatches 74; Indels 18; Gaps 5;
QY 14 LEILMGIFIAG---TSLDCNLLNVHLRRVTWQNLRLHLSMSNSPVECLENIAFELPQ 70
Db 5 lslmalvlvsygpgrslgcyisedhmlgar-enlrllarmnrslphclqdkrkfgipq 63
QY 71 EFLQYTPMKRDIKAFYENSLOAFNIF-SQHTFKYWKERHLKQIQIGLDOQAEYLNQCL 129
Db 64 emvegnqlqkdqaisvhemlqqcfnlifyehssaawnttllcgtlqgqledacl 123
QY 130 EEDENENEDMKEMKENMKPSEARVPQLSSLELRRYFHRIDNFKKKYSDCAWEIVRVE 189
Db 124 gpyvng-----kdsdmgrmgp-----iltvkkfygghvlylkekeysdcaweilrme 170
QY 190 IRRCL 194
Db 171 mmral 175
RESULT 8
AAB10016
ID AAP10016 standard; Protein; 187 AA.
XX
XX AAP10016;
XX
XX 19-OCT-1992 (first entry)
XX
XX Sequence of fibroblast interferon and its putative signal
XX peptide encoded by plasmid TpiF 319-13.
XX
XX Interferon; antiviral agent.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Peptide 1..21
XX /label= signal
XX
XX
```

PN EP28033-A.  
 XX  
 PD 06-MAY-1981.  
 XX  
 PF 30-OCT-1980; 80EP-0106685.  
 XX  
 PR 19-MAR-1980; 80JP-0033931.  
 XX  
 PR 30-OCT-1979; 79JP-0139289.  
 XX  
 PA (NICA-) JAPANESE CANCER RES.  
 XX  
 XX Sugano H, Muramatsu M, Taniguchi T;  
 PI WPI; 1981-34772D/20.  
 XX N-PSDB; AAN10009.  
 DR  
 XX DNA coding for poly:peptide with interferon activity - useful in  
 PT prepn. of human interferon in large amounts  
 PT  
 PS Example; Table 5, Page 18; 22pp; English.  
 XX  
 CC The inventors claim recombinant plasmid TPIF 319-13 which contains  
 CC cDNA (AAN10009) prepd. from mRNA extracted from human fibroblasts.  
 CC TPIF 319-13 transfected in E. coli has been deposited under  
 CC accession number ATCC 31712, which is claimed.  
 XX  
 SQ Sequence 187 AA;  
 5;  
 Query Match 22.4%; Score 246.5; DB 2; Length 187;  
 Best Local Similarity 32.9%; Pred. No. 3.1e-16;  
 Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;  
 QY 7 MIQKCLWLEILMGIFAGTSLDCNLL-----NVHLRRVTWONLRHLSSMSNFPVEC 59  
 Db 1 mtnkcllqialllcfsttalsmsynllglqrssnfqcqkllwq-----lngrleyc 52  
 QY 60 LRENTAFELPOEFLOYTPMKRDIKKAFYEMSLQAFNIFSQHTFKY-WKERHLKQIQIGL 118  
 Db 53 lkdrrnfdipeeikqlqfqkedaaltiyemlqnifairqdsstgwnetivenllanv 112  
 QY 119 DOQAEYLNOCLEEDENEDMKENEMKPEARVPOLSSLELRRYFHRIDNLFKEKKY 178  
 Db 113 yhqinhltkvtlee-klekedf-----trgklmsslhikryygrilhyllakey 159  
 QY 179 SDCAWEIVRVEIRCLYFYKFTALFR 205  
 Db 160 shcawtirveillrnfyfinrltgyrlr 186  
 RESULT 9  
 AAP20026  
 ID AAP20026 standard; Protein; 187 AA.  
 XX  
 AC AAP20026;  
 XX  
 DT 11-AUG-1992 (first entry)  
 XX  
 DE Human fibroblast interferon.  
 XX  
 KW Interferon; virucide; antitumor.  
 XX  
 OS Escherichia coli, Bacillus subtilis, Saccharomyces cerevisiae.  
 XX  
 PN EP48970-A.  
 XX  
 PD 07-APR-1982.  
 XX  
 PF 24-SEP-1981; 81EP-0107621.  
 XX  
 PR 11-AUG-1981; 81US-0291892.  
 XX  
 PR 25-SEP-1980; 80US-0190799.  
 XX

PA (GENE-) GENENTECH INC.  
 XX  
 PI Crea R, Goeddel DVN;  
 XX  
 DR WPI; 1982-28974E/15 (28974E).  
 DR N-PSDB; AAN20031.  
 XX  
 PT Microbially produced mature human fibroblast interferon - obtd.  
 PT by using recombinant DNA coding for amino acid interferon  
 PT sequences.  
 XX  
 PS Disclosure; Fig 3; 40pp; English.  
 XX  
 CC DNA encoding human interferon is expressed in large amounts in  
 CC E. coli, B. subtilis or S. cerevisiae and used as a virucide or  
 CC antitumour agent.  
 XX  
 SQ Sequence 187 AA;  
 Query Match 22.4%; Score 246.5; DB 3; Length 187;  
 Best Local Similarity 32.9%; Pred. No. 3.1e-16;  
 Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;  
 QY 7 MIQKCLWLEILMGIFAGTSLDCNLL-----NVHLRRVTWONLRHLSSMSNFPVEC 59  
 Db 1 mtnkcllqialllcfsttalsmsynllglqrssnfqcqkllwq-----lngrleyc 52  
 QY 60 LRENTAFELPOEFLOYTPMKRDIKKAFYEMSLQAFNIFSQHTFKY-WKERHLKQIQIGL 118  
 Db 53 lkdrrnfdipeeikqlqfqkedaaltiyemlqnifairqdsstgwnetivenllanv 112  
 QY 119 DOQAEYLNOCLEEDENEDMKENEMKPEARVPOLSSLELRRYFHRIDNLFKEKKY 178  
 Db 113 yhqinhltkvtlee-klekedf-----trgklmsslhikryygrilhyllakey 159  
 QY 179 SDCAWEIVRVEIRCLYFYKFTALFR 205  
 Db 160 shcawtirveillrnfyfinrltgyrlr 186  
 RESULT 10  
 AAR56987  
 ID AAR56987 standard; Protein; 187 AA.  
 XX  
 AC AAR56987;  
 XX  
 DT 17-FEB-1995 (first entry)  
 XX  
 DE Human fibroblast interferon beta-1.  
 XX  
 KW Fibroblast; interferon; antiviral; anti-tumour.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Region 1..21  
 FT /note= "Putative signal peptide."  
 XX  
 PN US5326859-A.  
 XX  
 PD 05-JUL-1994.  
 XX  
 PF 27-OCT-1980; 80US-0201359.  
 XX  
 PR 27-OCT-1980; 80US-0201359.  
 XX  
 PA (NICA-) JAPANESE FOUND CANCER RES.  
 XX  
 PI Muramatsu M, Sugano H, Taniguchi T;  
 XX WPI; 1994-217099/26.  
 DR N-PSDB; AAG68695.  
 DR

```

XX New DNA encoding human fibroblast interferon beta 1 - as
PT precursor or mature protein, useful as antiviral and antitumour
PT agent, allowing large scale prep'n of recombinant protein
XX
PS Claim 2; Columns 11-12; 11pp; English.
XX
CC This DNA sequence encoding the human fibroblast interferon beta 1
CC can be introduced to host cells e.g. E. coli and then expressed in
CC those cells, allowing large scale production of the recombinant
CC human fibroblast interferon beta 1 which exhibits antiviral and
CC anti-tumour activity.
XX
SQ Sequence 187 AA;

Query Match 22.4%; Score 246.5; DB 15; Length 187;
Best Local Similarity 32.9%; Pred. No. 3.le-16;
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

QY 7 MIQKCLWLEILMGIFTAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSFPVEC 59
Db 1 mtkcllqiallclftstalsmsynllglqrssnfqckllwq-----Ingrleyc 52
QY 60 LRENTAFELPOEFLOYTOPMKRDIKKAFFVEMSLQAFNIFSOHTFKY-WKERHLKQIQIGL 118
Db 53 lkdrnmfdipeeklqkqfgedaaltiyemlqnifairqdsstgwnetivenllanv 112
QY 119 DQQAELYNQCLEEDENENEDMKEMKPKSEARVPQLSSLELRVYFHRIDNFKKKY 178
Db 113 yhqinhktvlee-klekedf-----trgklmsllhkkryygrilhykakey 159

QY 179 SDCAMEIVRVEIRRCLYFYKFTALFR 205
Db 160 shcawtivrveilrnfynrltgyr 186

RESULT 11
AAW61154
ID AAW61154 standard; Protein; 187 AA.
XX
XX AAW61154;
XX
DT 12-OCT-1998 (first entry)
XX
DE Human interferon beta-1.
XX
KW Interferon beta-1; human; RNA replicon; Sindbis virus.
XX
OS Homo sapiens.
XX
PN WO9826084-A1.
XX
PD 18-JUN-1998.
XX
PF 09-DEC-1996; 96WO-IB01394.
XX
PR 09-DEC-1996; 96WO-IB01394.
XX
PA (BAIL/) BAILEY J E.
XX (RENN/) RENNER W A.
XX
PI Bailey JE, Renner WA;
XX
DR WPI: 1998-348538/30.
XX N-PSDB; AAV36457.
XX
PT Nucleic acid encoding human interferon-beta 1 - useful for, e.g.
PT efficient and high level production of interferon-beta 1
XX
PS Disclosure; Fig 1; 26pp; English.
XX
XX This polypeptide comprises human interferon beta-1 (IFN beta-1).

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CC The invention relates to replicating RNA molecules (RNA replicons)
CC containing a sequence encoding IFN beta-1, and methods for their
CC utilisation for the production of biologically active IFN beta-1 in
CC mammalian cells in culture. A 767 bp HincII fragment (see AAV36457)
CC encoding the IFN beta-1 polypeptide has been cloned into the EcoRV
CC site of pBluescript KS-. A XbaI, ApaI fragment of the subclone was
CC ligated into Sindbis virus-based vector pSinRep5. The ligation
CC product was used to transform E. coli DH5 alpha. In vitro
CC transcription of linearised pSinRep5-IFN yielded IFN beta-1
CC recombinant RNA replicons. BHK cells having the IFN beta-1 RNA
CC replicon introduced by electroporation, and CHO cells infected with
CC the IFN beta-1 RNA replicon packaged in virion particles, produced
CC biologically active IFN beta-1. Thus, use of the RNA replicons
CC provides a high and efficient level of production of IFN beta-1.
CC Production can be implemented using different host cells, different
CC replicons, and bioactive hardware and operating protocols chosen
CC to maximise production of the preferred glycoform of active IFN
CC beta-1 for each cell line-vector combination.
XX
SQ Sequence 187 AA;

Query Match 22.4%; Score 246.5; DB 19; Length 187;
Best Local Similarity 32.9%; Pred. No. 3.le-16;
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

QY 7 MIQKCLWLEILMGIFTAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSFPVEC 59
Db 1 mtkcllqiallclftstalsmsynllglqrssnfqckllwq-----Ingrleyc 52
QY 60 LRENTAFELPOEFLOYTOPMKRDIKKAFFVEMSLQAFNIFSOHTFKY-WKERHLKQIQIGL 118
Db 53 lkdrnmfdipeeklqkqfgedaaltiyemlqnifairqdsstgwnetivenllanv 112
QY 119 DQQAELYNQCLEEDENENEDMKEMKPKSEARVPQLSSLELRVYFHRIDNFKKKY 178
Db 113 yhqinhktvlee-klekedf-----trgklmsllhkkryygrilhykakey 159

QY 179 SDCAMEIVRVEIRRCLYFYKFTALFR 205
Db 160 shcawtivrveilrnfynrltgyr 186

RESULT 12
AAW05380
ID AAW05380 standard; Protein; 187 AA.
XX
XX AAW05380;
XX
DT 30-JUN-1999 (first entry)
XX
DE Human HCMV inducible gene protein, SEQ ID NO 33.
XX
KW HCMV inducible gene; cig; human; human cytomegalovirus; interferon;
KW anti-viral therapy; anti-HCMV therapy; detection; diagnosis;
KW drug screening.
XX
OS Homo sapiens.
XX
PN WO9913075-A2.
XX
PD 18-MAR-1999.
XX
PF 08-SEP-1998; 98WO-US18638.
XX
PR 22-SEP-1997; 97US-0059725.
PR 08-SEP-1997; 97US-0058180.
XX
PA (UVPB-) UNIV PRINCETON.
XX
PI Cong J, Schenk T, Zhu H;
XX
XX WPI: 1999-243729/20.

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PF 13-MAR-1995; 95WO-US03206.  
 XX 15-MAR-1994; 94US-0213448.  
 XX (BIOJ ) BIOGEN INC.  
 XX Cate RL, Chow E, Goelz SE, Pepinsky R;  
 XX WPI; 1995-336974/43.  
 DR N-PSDB; AAT03884.  
 XX Interferon beta mutein having Phe, Tyr, Trp or His substid. for  
 PT Vall01 - used in compsns. to treat viral infections e.g. papilloma  
 PT virus, cancer or tumour, abnormal cell growth or for  
 PT immuno-modulation  
 XX Disclosure; Page 35-36; 44pp; English.  
 PS An IFN-beta mutein has Val-101 (numbered according to wild-type  
 CC IFN-beta) replaced by Phe. The encoding DNA is obtd. by  
 CC site-directed mutagenesis or chemical synthesis, and allows expression  
 CC of the mutein in animal cells, pref. CHO-DDUKY-B1. The mutein has 2.5  
 CC times the specific activity, in antiviral assay, than recombinant  
 CC wild-type IFN-beta.  
 XX SQ Sequence 187 AA;

Query Match 22.3%; Score 245.5; DB 16; Length 187;  
 Best Local Similarity 32.9%; Pred. No. 3.8e-16;  
 Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

QY 7 MIOKCLWLLEILMGIFTAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSPVEC 59  
 Db 1 mcnkellqalllcftstalsynllglqrssnfqcdkllwq-----lngrleyc 52

QY 60. LRENIAFELPQFLOQTPMKRDIKAFYEMSLQAFNIFSOHTFKY-WKERHLKQIQIGL 118  
 Db 53 lkdrnmfdipeeikqlqfkdadaaltiyemlqnfafirgdsstgwnetivenillanv 112

QY 119 DQQAAYNOCLEDEENEDMKEMKENEMKPEARVPQSLSELRYFHRIDNFKLKKY 178  
 Db 113 yqinhnlkfflee-klekedf-----trgklmsllhkrkygrilhyllkakey 159

QY 179 SDCAWEIVRVEIRCLYFYKFTALFR 205  
 Db 160 shcawtivrvellrnfyfinritgylr 186

RESULT 15  
 AAR24943  
 ID AAR24943 standard; Protein; 195 AA.  
 XX AAR24943;  
 XX 03-JAN-1992 (first entry)  
 XX Sequence of ovine trophoblastin variant Xb.  
 XX Antiviral; antinflammatory; antitumour; immunomodulator; immunogen;  
 KW trophoblastin; antiluteolytic agent.  
 XX Ammotragus lervia.  
 OS Key Location/Qualifiers  
 FH Peptide 1..23  
 FT /label= signal  
 XX W09209691-A.  
 XX 11-JUN-1992.  
 XX 29-NOV-1991; 91WO-FR00953.

XX 29-NOV-1990; 90FR-0014945.  
 PR 29-NOV-1990; 90FR-0014946.  
 XX (INRG ) INRA INST NAT RECH AGRONOMIQUE.  
 PA (TRGE ) TRANSGENE SA.  
 XX Degryse E, Chaouat G, Charlier M, Charpigny G, Gaye P;  
 PI Martal J, Reinaud P;  
 XX WPI; 1992-217070/26.  
 XX New type I interferon variants with added N-terminal di-peptide -  
 PT include expression cassettes providing high yield in yeast, esp.  
 PT trophoblast derivs. with e.g. anti-luteolytic activity  
 XX Claim 7; page 30; 53pp; French.  
 XX The DNA sequence encoding the precursor of ovine trophoblastin was  
 CC disclosed in PCR WO 89/08706 (see AAR24941). AAR24942-R24945 are  
 CC isoforms of trophoblastin. They have anti-luteolytic activity and  
 CC are used to improve survival of transplanted embryos; as a reagent  
 CC for detecting viability of embryos at an early stage of its  
 CC development; and to improve the fertility of livestock.  
 XX SQ Sequence 195 AA;

Query Match 22.3%; Score 245.5; DB 13; Length 195;  
 Best Local Similarity 31.9%; Pred. No. 4e-16;  
 Matches 58; Conservative 35; Mismatches 56; Indels 33; Gaps 4;

QY 18 MGFIAGTSLSDCNLLNVHLRRVTWQNLRLHLSMSNSPVECLRENIATFELPQEFLOQY 77  
 Db 22 lgcylserimldar-----enklldrmnrslphscldqrkkfqlpqemvegq 70

QY 78 PMKRDIIKAFYEMSLQAFNIF-SOHTFKYKERHLKQIQIGLQQAAYLNOC-----LEED 132  
 Db 71 dlkdqafpviyemlqqsfnlftyehssaawdtllldqictgllqqlldhldtcrqgvmgee 130

QY 133 ENENEDMKEMKENEMKPEARVPQSLSELRYFHRIDNFKLKKYSDCAWEIVRVEIR 192  
 Db 131 dselgnmdpi-----vtvkkkyfggldyiqekgysdcaweiivrvmnr 173

QY 193 CL 194  
 Db 174 al 175

Search completed: October 19; 2001, 14:44:54  
 Job time: 30 sec

